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ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: UniStar Nuclear Energy, NRC Docket No. 52-016
Response to Request for Additional Information for the
Calvert Cliffs Nuclear Power Plant, Unit 3,
RAI No. 132, Overhead Heavy Load Handling System

Reference: John Rycyna (NRC) to Robert Poche (UniStar Nuclear Energy), "RAI No 132
SBPA 2721.doc" email dated July 29, 2009.

The purpose of this letter is to respond to the request for additional information (RAI) identified in the NRC e-mail correspondence to UniStar Nuclear Energy, dated July 29, 2009 (Reference). This RAI addresses the overhead heavy load handling system as discussed in Section 9.1.5 of the Final Safety Analysis Report, as submitted in Part 2 of the Calvert Cliffs Nuclear Power Plant, Unit 3 Combined License Application (COLA), Revision 5.

The enclosure provides our responses to RAI No. 132, Questions 09.01.05-1, 09.01.05-2, and 09.01.05-3 and includes revised COLA content. A Licensing Basis Document Change Request has been initiated to incorporate these changes into a future revision of the COLA. The responses to the identified questions do not include any new regulatory commitments.

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If there are any questions regarding this transmittal, please contact me at (410) 470-4205, or Mr. Michael J. Yox at (410) 495-2436.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on August 20, 2009



Greg Gibson

Enclosure: Response to NRC Request for Additional Information, RAI No. 132, Overhead Heavy Load Handling System, Questions 09.05.01-1 through 09.05.01-3, Calvert Cliffs Nuclear Power Plant Unit 3

cc: Surinder Arora, NRC Project Manager, U.S. EPR Projects Branch
Laura Quinn, NRC Environmental Project Manager, U.S. EPR COL Application
Getachew Tesfaye, NRC Project Manager, U.S. EPR DC Application (w/o enclosure)
Loren Plisco, Deputy Regional Administrator, NRC Region II (w/o enclosure)
Silas Kennedy, U.S. NRC Resident Inspector, CCNPP, Units 1 and 2
U.S. NRC Region I Office

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Enclosure

**Response to NRC Request for Additional Information,
RAI No. 132, Overhead Heavy Load Handling System,
Questions 09.05.01-1 through 09.05.01-3
Calvert Cliffs Nuclear Power Plant Unit 3**

RAI No. 132

Question 09.01.05-1

Calvert Cliffs Nuclear Power Plant (CCNPP) Unit 3 FSAR Section 9.1.5.2.5 contains a "Procedures" paragraph that provides a commitment for the applicant to provide a site-specific procedure for overhead heavy load handling. The "Procedures" paragraph provides a detailed outline of information that will be included in the heavy load handling procedures. Section 9.1.5.2.5 also contains a requirement for procedure development prior to fuel load for heavy load lifts in the vicinity of irradiated fuel or safe shutdown equipment. Section C.I.9.1.5, "Overhead Heavy Load Handling System," of Regulatory Guide (RG) 1.206, "Combined License Applications for Nuclear Power Plants (LWR Edition)," Regulatory Position C.III.1, "Information Needed for a Combined License Application Referencing a Certified Design" (page C.III.1-112) provides a list of criteria to be included in the heavy load handling program. One of the criteria listed in RG 1.206 states that the applicant is to provide a listing of all heavy loads and heavy load handling equipment outside the scope of loads described in the referenced certified design and the associated heavy load attributes (load weight and typical load paths). This section of RG 1.206 also requests a safety evaluation for heavy loads outside the scope of loads described in the referenced certified design that are handled by non-single-failure-proof handling systems. Provide the location of this content in the CCNPP Unit 3 FSAR or provide justification for excluding these RG 1.206 items.

Response

There are no additional site-specific heavy loads or heavy load handling equipment in buildings within the scope of the certified design. Some site-specific buildings housing equipment that provide an essential safety function contain handling equipment that is rated for heavy loads. These handling systems are part of the detailed design; however, a listing of those site-specific loads, load handling systems, and load attributes (load weight and typical load path) is not yet available. Consequently, a safety evaluation for loads outside the scope of the referenced certified design has not yet been prepared. FSAR Section 9.1.5.2.5 contains a COL Item that requires, in part, the development of heavy load handling procedures that address equipment identification along with approved safe load paths and exclusions areas. These procedures are to be developed prior to fuel load to allow sufficient time for plant staff familiarization, to allow NRC staff adequate time to review the procedures, and to develop operator licensing examinations. As noted in the question, the list of items for inclusion in the procedures does not include a requirement to provide a listing of the heavy loads and heavy load handling equipment outside the scope of loads described in the referenced certified design and the associated heavy load attributes (load weight and typical load path), as discussed in Regulatory Guide 1.206. This attribute will be added to FSAR Section 9.1.5.2.5 to ensure that the listing of heavy loads and heavy load handling equipment outside the scope of loads described in the U.S. EPR FSAR is provided prior to fuel load.

COLA Impact

FSAR Section 9.1.5.2.5, System Operation, will be revised as follows in a future COLA revision:

9.1.5.2.5 System Operation

The U. S. EPR FSAR includes the following COL Item in Section 9.1.5.2.5:

A COL applicant that references the U.S. EPR design certification will provide site-specific information on the heavy load handling program, including a commitment to procedures for heavy load lifts in the vicinity of irradiated fuel or safe shutdown equipment, and crane operator training and qualification.

This COL Item is addressed as follows:

Procedures

Administrative procedures to control heavy loads shall be developed prior to fuel load to allow sufficient time for plant staff familiarization, to allow NRC staff adequate time to review the procedures, and to develop operator licensing examinations. Heavy loads handling procedures address the following:

- ◆ Identification of any heavy loads and heavy load handling equipment outside the scope of loads described in the U.S. EPR FSAR and the associated heavy load attributes (load weight and typical load path).
- ◆ Equipment identification
- ◆ Required equipment inspections and acceptance criteria prior to performing lift and movement operations.
- ◆ Approved safe load paths and exclusion areas.
- ◆ Safety precautions and limitations.
- ◆ Special tools, rigging hardware, and equipment required for the heavy load lift.
- ◆ Rigging arrangement for the load.
- ◆ Adequate job steps and proper sequence for handling the load.

Question 09.01.05-2

CCNPP Unit 3 FSAR Section 9.1.5.2.5 contains a paragraph titled "Inspection and Testing" describing the inspection, test and maintenance in accordance with ASME B30.2, "Overhead and Gantry Cranes." This is consistent with Standard Review Plan (SRP) Section 9.1.5, "Overhead Heavy Load Handling Systems," guidance for cranes to be inspected, tested, and maintained prior to use, in accordance with Chapter 2-2 of ASME B30.2-2005.

However, Section 9.1.5.2.5 of the FSAR appears to have included an exception that indicates tests and inspections may be performed prior to use for infrequently used cranes. ASME B30.2 states that inspections shall be performed prior to use. Section 2-2.1.4 of ASME B30.2-2005 states:

2-2.1.4 Cranes Not in Regular Service

- (a) A crane that is used in infrequent service, which has been idle for a period of 1 month or more, but less than 1 year, shall be inspected before being placed in service in accordance with the requirements listed in para. 2-2.1.2.
- (b) A crane that is used in infrequent service, which has been idle for a period of 1 year or more, shall be inspected before being placed in service in accordance with the requirements listed in para. 2-2.1.3.

Provide justification for this exception of not requiring inspections of infrequently used cranes prior to use.

Response

The crane inspection, testing, and maintenance requirements, as applicable to FSAR Section 9.1.5.2.5, System Operation, will be performed in accordance with ASME B30.2-2005. The exception identified in FSAR Section 9.1.5.2.5 will be deleted.

COLA Impact

FSAR Section 9.1.5.2.5, System Operation, will be revised as follows in a future COLA revision:

Inspection and Testing

Cranes addressed in U.S. EPR FSAR Section 9.1.5 are inspected, tested, and maintained in accordance with ASME B30.2 (ASME, 2005), ~~with the exception that tests and inspections may be performed prior to use for infrequently used cranes.~~ Prior to making a heavy load lift, an inspection of the crane is made in accordance with the above applicable standards.

Question 09.01.05-3

In the CCNPP Unit 3 FSAR, there appears to be an inconsistency with the edition of ASME B30.2 that personnel involved in crane operation shall be qualified to.

- FSAR Section 13.5.1.1.5 refers to ANSI B30.2-1976.
- FSAR Section 9.1.5.2.5 refers to ASME B30.2-2005.

Resolve this inconsistency or provide the edition of code which is correct.

Response

FSAR Section 9.1.5.2.5, System Operation, states that the training and qualification of operators of cranes addressed in U.S. EPR FSAR Section 9.1.5 meet the requirements of ASME B30.2. FSAR Section 13.5.1.1.5, Crane Operation Procedures, is specifically associated with crane operations over the refueling cavity and the fuel pool. This section will be revised to be consistent with FSAR Section 9.1.5 and will indicate that the personnel involved with such crane operations shall be qualified and shall conduct crane operations in accordance with ASME B30.2-2005.

COLA Impact

FSAR Section 13.5.1.1.5, Crane Operation Procedures, and FSAR Section 13.5.3, References, will be revised as follows in a future COLA revision:

13.5.1.1.5 Crane Operation Procedures

Personnel involved with crane operations over the refueling cavity and fuel pool shall be qualified and shall conduct crane operations in accordance with ~~ANSI B30.2-1976, "Overhead and Gantry Cranes" (ANSI, 1976)~~ ASME B30.2 (ASME, 2005). These procedures shall be prepared 6 months before initial fuel load.

13.5.3 References

{This section is added as a supplement to the U.S. EPR FSAR.

~~ANSI, 1976. Overhead and Gantry Cranes, ANSI/ASME B30.2-1976, American Society of Mechanical Engineers, 1976.~~

ASME, 2005. Overhead and Gantry Cranes - Top Running Bridge, Single or Multiple Girder, Top Running Trolley Hoist, ASME B30.2, American Society of Mechanical Engineers, 2005.